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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,249	08/03/2001	Jong Myeong Kim	KIMJ3008/REF	6264
7590	06/08/2006		EXAMINER	
Bacon & Thomas 625 Slaters Lane 4th Floor Alexandria, VA 22314-1176			JONES, PRENELL P	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 06/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/890,249	KIM ET AL.	
	Examiner Prenell P. Jones	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 13 March 2006.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-12 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 10-12 is/are allowed.  
 6) Claim(s) 1-9 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1.) Certified copies of the priority documents have been received.  
 2.) Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3.) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

***Response to Arguments***

1. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

***Drawings***

1. Figures 1-10 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, in lines 6-7, it is not clear what is meant by "spreading additional said data signals with complex orthogonal codes to obtain second signals." Therefore, Examiner questions what signals are being referred to? Claim 2-6 depend on claim 1, therefore, claim 2-6 are rejected for the same reason as claim 1.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-2 and 7-9 are rejected under 35 U.S.C. 102(a) as being anticipated by Applicants admitted prior art (AAPA) shown in Figures 9 and 10.

Regarding claim 1, AAPA discloses, wherein Figure 9 shows a CDMA 2000 transmitter that includes all limitations. Note that a pair of data signals (those associated with SCH#2/G32/X (T) and SCH#1/G31)/Y (T) are also supplied to a complex multiplier, namely, complex multiplier (143). The claimed language is broad enough that the claimed complex multiplier can be read as the complex multiplier (143) of AAPA Figure 9.

Regarding claim 2, Applicant also admits in specification, utilizing complex spreading and complex scrambling to improve PAR characteristics (page 33, line 5-22).

Claim 7 as recited is an independent claim, and therefore does not incorporate the transmitter recited in the previous claim. The claim as recited reads on AARA shown in Figure 10.

Regarding claims 8 and 9, Applicant further admits in specification (Fig. 10, pages 35-37) that the de-spreaders and scrambling code generator are coupled to spreading de-modulator, which

Art Unit: 2616

houses a complex-multiplier, which is utilized to multiply signals associated with the de-spreaders and scrambling code generator by the same orthogonal code as used at the transmitter.

***Reason for Allowance***

6. Claims 10-12 are allowed over prior art.
7. Claims 3-6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is statement for reason for indicating allowable subject matter; Although the prior art discloses improving the transmission of spread spectrum wherein the architecture includes transmission and receiving data as associated in an CDMA environment, a plurality of code channels associated with code symbols, multiple carrier scheme, spread spectrum technique of CDMA, performing orthogonal spreading and scrambling in accordance with PN sequences, modulated data from scramblers is provided to multiplexer, they fail to teach or suggest with respect to claim 4, orthogonal complex-domain spreading is performed with Hadamard codes and the scrambling codes for complex-domain scrambling are produced using orthogonal Hadamard codes, with respect to claim 5, orthogonal complex-domain spreading is performed with Walsh codes and the scrambling codes for the complex-domain scrambling are produced using orthogonal Hadamard codes, with respect to claim 6, orthogonal complex-domain spreading is performed with Gold codes and the scrambling codes for the complex-domain scrambling are produced using orthogonal Hadamard codes, with respect to claim 10 and 11, two complex multipliers wherein the first complex multiplier performs a first orthogonal complex-domain spreading with the input of the transmitting data of the supplemental channels of the OVSF codes, and a second complex multipliers for adding modulated signals and

Art Unit: 2616

correcting phase of de-spread signal, and with respect to claim 3, when the spreading data do not vary, wherein;

$$\begin{aligned} C_{\text{scramble}, I}[n] + j C_{\text{scramble}, Q}[n] &= -C_2[n] C_{\text{scramble}, Q}(n-1) H_b[n-I] H_b[n] + j C_2[n] \\ C_{\text{scramble}, I}[n-I] H_a[n-1] H_a[n]. \end{aligned}$$

and when the spreading data vary, wherein;

$$C_{\text{scramble}, I}[n] + j C_{\text{scramble}, Q}[n] = C_I[n] + C_2[n]$$

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prenell P. Jones whose telephone number is 571-272-3180. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prenell P. Jones

May 30, 2006

*Clarke*  
CHI PHAM  
ADVISORY PATENT EXAMINER  
5/30/06